

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
30 October 2003 (30.10.2003)

PCT

(10) International Publication Number
WO 2003/089574 A3

- (51) International Patent Classification⁷: **A61K 38/04**, 38/08, 38/14, 39/02, 39/12, 39/385
- (21) International Application Number:
PCT/US2003/010750
- (22) International Filing Date: 9 April 2003 (09.04.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/372,105 15 April 2002 (15.04.2002) US
60/377,595 6 May 2002 (06.05.2002) US
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- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report:
1 September 2005
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SYNTHETIC GLYCO-LIPO-PEPTIDES AS VACCINES

(57) Abstract: A glycolipopeptide comprising at least one disease-associated epitope, and characterized by at least one lipidated interior amino acid or by the presence of a MUC1 epitope, may be used in a vaccine, preferably in conjunction with a liposome.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/10750

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 38/04, 38/08, 38/14, 39/02, 39/12, 39/385
US CL : 424/185.1, 193.1, 196.11, 197.11, 277.1; 530/322

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 424/185.1, 193.1, 196.11, 197.11, 277.1; 530/322

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	PRICE et al. Summary Report on the ISOBM TD-4 Workshop: Analysis of 56 Monoclonal Antibodies against the MUC1 Mucin. Tumor Biology. 1998, Vol. 19, Supplement 1, pages 1-20, especially pages 10-15.	1, 2, 6-13, 85-92, 108-110
Y	TOYOKUNI et al. Synthetic Vaccines: Synthesis of A Dimeric Tn Antigen-Lipopeptide Conjugate That Elicits Immune Responses against Tn-Expressing Glycoproteins. J. Am. Chem. Soc. 1994, Vol. 116, pages 395-396.	1, 2, 7, 8, 10, 89, 91, 108-110
Y	REICHEL et al. Synthetic Carbohydrate-Based Vaccines: Synthesis of an L-Glycero-D-Manno-Heptose Antigen-T-Epitope-Lipopeptide Conjugate. Chem. Commun. 1997, pages 2087-2088.	1, 2, 7, 8, 10, 89, 91, 108, 109, 110
Y	US 5,837,249 A (HEBER-KATZ et al) 17 November 1998 (17.11.1998), column 23-24.	1, 5, 7, and 8

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A " document defining the general state of the art which is not considered to be of particular relevance
"E " earlier application or patent published on or after the international filing date
"L " document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O " document referring to an oral disclosure, use, exhibition or other means
"P " document published prior to the international filing date but later than the priority date claimed

"T " later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X " document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y " document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search

23 June 2005 (23.06.2005)

Date of mailing of the international search report

20 JUL 2005

Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/10750

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☒ Claim Nos.: 14-21, 24, 26-69, 75-81 and 84
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

PCT/US03/10750

Continuation of B. FIELDS SEARCHED Item 3:

Medline, Embase, Biosis, Caplus, US Patents Database in EAST
search terms: glycolipopeptide, glycosylat?, lipidat? peptide, vaccine